

IN THE CLAIMS

1. (currently amended) A multiaxial connection osteosynthesis system, ~~in particular for the spine, including comprising a bone anchor member (2) having a head (12), a connecting member (4), a connector (6; 106; 206) having a first inwardly deformable portion housing (46; 146; 246) adapted to receive the said head and integral with a second housing (32) portion, said second portion having a seat adapted to receive the connecting member, said first and second portion extending along an axis, the system including and a clamping means (8) moveable along said axis for clamping the said connecting member in the said second portion housing, characterized in that the wherein said connector is arranged so that, when the said clamping means loads the said connecting member in the said second housing in the direction of said axis, the said connecting member loads the said seat connectors directly to inwardly deform the said first portion housing and immobilize the said head therein.~~

2. (currently amended) ~~The system according to claim 1 characterized in that the wherein said first housing portion includes a chamber (54) with a concave surface.~~

3. (currently amended) ~~The system according to claim 1 or claim 2 characterized in that the wherein said first housing portion includes a cavity (110; 210) adapted to receive part of the said head (12).~~

4. (currently amended) ~~The system according to any of claims 1 to 3 characterized in that the wherein said head has a spherical part (18).~~

5. (currently amended) ~~A~~The system according to ~~any of~~ claims 1 ~~to 4~~ characterized in that the wherein said connector includes a slot ~~(56, 256)~~ in the said first housing portion.

6. (currently amended) ~~A~~The system according to ~~any of~~ claims 1 ~~to 5~~ characterized in that the wherein said first housing portion has a U-shaped opening having an axis ~~(42)~~ and two branches ~~(34)~~ at a distance from and facing each other.

7. (currently amended) ~~A~~The system according to claims ~~5~~ and 6 characterized in that the wherein said slot is perpendicular to the said axis ~~(42)~~ of the U-shaped opening.

8. (currently amended) ~~A~~The system according to claim 6 ~~or claim 7~~ characterized in that the wherein said clamping means include a locking member ~~(8)~~ adapted to engage between the said branches of the said U-shaped opening.

9. (currently amended) ~~A~~The system according to ~~any of~~ claims ~~6 to 8~~ characterized in that the wherein said clamping means include a flange adapted to fit around the said branches of the said U-shaped opening.

10. (currently amended) ~~A~~The system according to ~~any of~~ claims ~~6 to 9~~ characterized in that the wherein said branches ~~(34)~~ of the said U-shaped opening have a screwthread ~~(28)~~.

11. (currently amended) ~~A~~The system according to claim 10 characterized in that the wherein said screwthread ~~(26, 28)~~ has a face ~~(80)~~ substantially perpendicular to the an axis of the said screwthread and oriented in a penetration direction of the said clamping means on the said connector.

12. (new) A multiaxial connection osteosynthesis system comprising:

a bone anchor member having a head;

a connecting member;

a connector having a first housing with a recess adapted to receive said head and having an inwardly deformable portion connected to said first housing and a second housing having a seat adapted to receive said connecting member, said seat including at least two raised ends;

a locking member for clamping said connecting member against said raised ends of said seat in said second housing wherein said raised ends apply a force against said first housing as said locking member clamps said connecting member, inwardly deforming said deformable portion thereby immobilizing said head therein.

13. (new) The system according to claim 12, wherein said first housing includes a chamber having a concave surface.

14. (new) The system according to claim 12, wherein said first housing includes a cavity adapted to receive part of said head.

15. (new) The system according to claim 12, wherein said head has a spherical part.

16. (new) The system according to claim 12, wherein said connector includes a slot located in said first housing.

17. (new) The system according to claim 14, wherein said connector includes a slot located in said first housing.

18. (new) The system according to claim 12, wherein said second housing has a U-shaped opening having an axis and at least two branches, said branches separated by a distance from and facing each other.

19. (new) The system according to claim 18, wherein said slot is perpendicular to said axis of said U-shaped opening.

20. (new) The system according to claim 18, wherein said locking member is adapted to be engaged between said branches of said U-shaped opening.

21. (new) The system according to claim 18, wherein said locking member includes a flange.

22. (new) The system according to claim 20, wherein said locking member includes a flange.

23. (new) The system according to claim 18, wherein said branches of said U-shaped opening have a screw thread.

24. (new) The system according to claim 23, wherein said screw thread comprises a face substantially perpendicular to said axis of said thread and oriented in the penetration direction of said locking member on said connector.

25. (new) A multiaxial connection osteosynthesis system comprising:

- a bone anchor having a head;
- a connecting member;

a connector having a first housing with a recess for receiving said head of said bone anchor and a second housing having a seat adapted to engage said connecting member, said seat further having at least two raised ends and said first housing having walls separated by two slots, said slots extending from an exterior of said connector to said recess of said first housing; and

a locking member for clamping said connecting member on said seat in said second housing wherein an axial force applied by said locking member causes said connecting member to engage said raised ends on said seat and deflect said walls of said first housing inwardly about said slots to cause said recess of said first housing to lock said head of said bone anchor within.

26. (new) The system according to claim 25, wherein said first housing includes a chamber having a concave surface.

27. (new) The system according to claim 25, wherein said first housing includes a cavity adapted to receive part of said head.

28. (new) The system according to claim 25, wherein said head has a spherical part.

29. (new) The system according to claim 25, wherein said connector includes a slot located in said first housing.

30. (new) The system according to claim 25, wherein said second housing has a U-shaped opening having an axis and at least two branches, said branches separated by a distance from and facing each other.

31. (new) The system according to claim 30, wherein said slots are perpendicular to said axis of said U-shaped opening.

32. (new) The system according to claim 30, wherein said locking member is adapted to be engaged between said branches of said U-shaped opening.

33. (new) The system according to claim 30, wherein said locking member includes a flange.

34. (new) The system according to claim 30, wherein said branches of said U-shaped opening have a screwthread.

35. (new) A multiaxial connection osteosynthesis system comprising:

a bone anchor having a head;

a rod member;

a connector extending along an axis having a first portion with a recess adapted to receive said head, said recess having inwardly deformable walls, said first portion axially aligned with a second portion having a seat adapted to receive said rod, said seat adjacent said walls; and

a means for clamping said rod against said seat in said second portion, wherein an axial force applied by said clamping means causes said rod to engage a means on said seat wherein a resultant force by said seat is applied against said walls inwardly deforming said walls of said recess of said first portion thereby locking said head of said bone anchor within.

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